

Application No.: 10/719,739

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Docket No.: 245402008000
Client Reference No.: 903239-01 (RH/in)**AMENDMENTS TO THE CLAIMS**

Claim 1 (previously presented): A nitride semiconductor light emitting device comprising at least a substrate, an active layer formed of a nitride semiconductor containing mainly In and Ga, an optical cavity, two electrodes comprising a p-electrode and an n-electrode, wherein the p-electrode or the n-electrode is divided into at least two regions, and wherein all the regions of said p electrode or n electrode share the optical cavity.

Claim 2 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 3 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, and said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 4 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, and said nitride semiconductor light emitting device has self pulsation characteristics in a light output range of at least 5 mW.

Claim 5 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode.

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Claim 6 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 7 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, and the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and said nitride semiconductor light emitting device has self pulsation characteristics.

Claim 8 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein said active layer has a bandgap of at least 2.6 eV, and the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and said nitride semiconductor light emitting device has self pulsation characteristics in a light output range of at least 5 mW.

Claim 9 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein one of said electrodes electrically separated into said at least two regions contacts a first mirror facet of two mirror facets forming said optical cavity, and said first mirror facet has a reflection film containing a conductive material, and the p-electrode and n-electrode are electrically connected by said reflection film.

Claim 10 (previously presented): The nitride semiconductor light emitting device according to claim 9, wherein said first mirror facet is positioned at a side of said optical cavity opposite to an output side of said optical cavity.

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Claim 11 (original): The nitride semiconductor light emitting device according to claim 9, wherein said conductive material includes Al.

Claim 12 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein a resistor is provided between said p-electrode and said n-electrode in at least one of the regions of said electrode electrically separated into said at least two regions.

Claim 13 (previously presented): The nitride semiconductor light emitting device according to claim 12, wherein said device has self pulsation characteristics that are adjusted by said resistor provided between said p-electrode and said n-electrode.

Claim 14 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein Si is added as an n-type impurity into said active layer, and a concentration of said Si in said layer is $1 \times 10^{17}/\text{cm}^3$ to $5 \times 10^{18}/\text{cm}^3$.

Claim 15 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein Si is added as an n-type impurity, and an average concentration of said Si is $1 \times 10^{17}/\text{cm}^3$ to $5 \times 10^{18}/\text{cm}^3$ in a region from a p-n junction to said active layer.

Claim 16 (previously presented): The nitride semiconductor light emitting device according to claim 1, wherein the p-electrode and n-electrode are electrically short-circuited in at least one of the regions of said separated electrode, and a range of $0.02 \leq L1/L2 \leq 0.30$ is established, where L1 is a total length of the region or regions of the separated electrode that are electrically short-

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circuited, and L2 is a total length of the region or regions of the separated electrode that are not short-circuited.

Claim 17 (original): The nitride semiconductor light emitting device according to claim 1, wherein connection is established such that at least one of said electrodes separated into at least two regions has reverse bias applied to said active layer and another of said electrodes separated into at least two regions has forward bias applied to the active layer.

Claim 18 (original): The nitride semiconductor light emitting device according to claim 17, wherein connection is established such that at least one of said electrodes separated into at least two regions has reverse bias and forward bias applied in a switched manner to said active layer.

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